

ARCHITECTURE HERITAGE and DESIGN

Carmine Gambardella

XVI INTERNATIONAL FORUM

Le Vie dei  
Mercanti



**WORLD HERITAGE and KNOWLEDGE**

Representation | Restoration | Redesign | Resilience

**ARCHITECTURE HERITAGE and DESIGN | 2**  
Collana fondata e diretta da Carmine Gambardella

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**Conference report**

300 abstracts and 650 authors from 36 countries:

Albania, Australia, Benin, Belgium, Bosnia and Herzegovina, Brasil, Bulgaria, California, Chile, China, Cipro, Cuba, Egypt, France, Germany, Italy, Japan, Jordan, Kosovo, Malta, Massachusetts, Michigan, Montserrat, New Jersey, New York, New Zealand, Poland, Portugal, Russia, Slovakia, Spain, Switzerland, Texas, Tunisia, Turkey, United Kingdom.

160 papers published after double blind review by the International Scientific Committee

## Preface

*In the present era, technologies are becoming increasingly important in helping and supporting man in research, knowledge and production activities, almost as if they were smart prostheses. With the theme of the XVI Forum "World Heritage and Knowledge", I propose to the International Scientific Community to debate and establish a comparison of knowledge carriers to communicate methodologies of good practices adopted and experiences in the use in the protection, conservation and safeguarding of cultural heritage and landscape as well as in the design of the "new," that, adopting in the building processes and building construction Innovative Building Modelling, can realise a non-contemporaneity of what has the same date (Giulio Carlo Argan) respectful of the values of the pre-existing, legitimate because it participated ex ante and monitored becoming all its ethical, aesthetic and performance connotations.*

*With the Internet of things, for example, sensors that are used to produce data autonomously that widen the processes of knowledge on all levels, from the territory with its infrastructures, to the environment, to the artefacts entering into the body itself of their physicality, or, in the case of the new, building the project as a prediction throughout physical consistency.*

*Nevertheless, the use of new technologies allows for economies of scale, both temporal and economical, not only for the surveying and representation of the built and the territory in the analysis phase but above all for the management of the resulting data that makes the design activity of the restoration of the historical heritage and landscape or of the newly constructed in a single process no longer divided into steps but also unitary in concrete constructions and the realisation of the works, in the intermediate checks, in the testing, in the monitoring and in the programmed maintenance.*

*In conclusion, it is indispensable for the scientific community to highlight how technologies, without a responsible attitude that commit man's choices and knowledge in dealing with and planning appropriate responses to the issues and needs of the collective, can create a deception that unfortunately materialises with the subtle persuasion of uncontrolled astonishment that overwhelms the imagination.*

*Carmine Gambardella*

*President and Founder of the Forum*



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## Landscape redevelopment as a tool for the enhancement of rural areas. A project proposal for the case study area of Padule di Bientina (Lucca – Italy)

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### Abstract

Landscape is an extraordinary resource to read the past, the present and the future spatial organization of a territory. At the same time, landscape is a common good whose conservation, maintenance and enhancement are generally seen as a duty for local communities.

According to the retro-innovation approach, a historic rural landscape can be a development engine for a territory when it is properly reinterpreted and redesigned on the basis of new local communities' needs. This should be done by preserving its primary function of food production while, at the same time, improving its ecological and environmental performance and strengthening (rather than losing) the knowledge of the specificities of places.

The retro-innovation approach has been the guide for a study carried out on the reclaimed plain of Padule di Bientina (LU), and in particular on a sub-area of 235 ha, cultivated with arable crops. This area shows evident signs of abandonment or inadequate management and, at the same time, it presents elements of naturalistic and environmental value and of historical-testimonial interest linked to the presence of a traditional arrangement of the fields and drainage systems.

The proposed project was developed as a master plan of rural area re-organisation where the redevelopment aimed to answer a multiplicity of needs and to develop local vocations, able to ensure a balance among the productive role of agriculture, the naturalistic, environmental and ecological aspects, the historical-landscape, the aesthetic-perceptive and the fruition of the territory.

**Keywords:** landscape protection, rural areas, humid zones, redevelopment, planning

### 1. Introduction

Landscape is the result of the effects of anthropic and natural factors. People transform and manage the landscape through their actions. These actions leave signs and elements witnessing anthropic permanence on a territory, which is possible to trace according to a historic perspective [1].

The European Landscape Convention (ELC) [2] is concerned with the issue of landscape safeguarding through actions aiming to conserve, maintain or improve landscape significant or distinguishing features. Indeed, these actions stem by the heritage value that landscape has for the local communities and other stakeholders. When analysing man-made landscapes, their value includes historic, identity and cultural aspects. These aspects are the result of a mix of human knowledges and competences and of the specific biophysical patterns and characteristics of a territory. The concept of "cultural landscape" derives from the above approach, for which the cultural landscape can be considered as a potential resource for the socio-economic development of a territory [3] [4] [5] [6]. Many rural territories increased their attractiveness and reputation as a result of the acknowledgement of the cultural value of their landscape. However, although cultural landscapes were able to guarantee an adequate level of socio-economic development, in some cases this development was not able to guarantee a sustainable use of environmental resources.

Consequently, the issue arises of reconciling development with cultural landscape preservation and conservation needs. Indeed, modernization processes aiming to reach an adequate efficiency of agricultural activities in a globalized and competitive market have brought about profound changes in the historic structure of the rural and agricultural landscape. These changes have had different impacts on landscapes located in mountains, hills and lowland. Lowland landscapes, e.g., show a simplification of landscape structures, such as an increase in field size and a decrease of ecological and biodiversity infrastructures, that have caused an increasing standardisation of places.

This study stems from the acknowledgment of the plurality of values of a cultural landscape and their potential role in the promotion of rural development. It presents a methodology for upgrading and enhancing a Tuscany lowland landscape according to a retro-innovation perspective [7].

A retro-innovation perspective implies the re-interpretation and re-organization of original resources with the aim to update their use to the current conditions. Rural sociologists and agricultural economists have recently shown a growing interest for forms of social innovation among which the various forms of retro-innovations are included [8] [9]. Retro-innovations are defined as a well-established system updated to new conditions. They focus on new uses for the original resources, thus creating innovations. Retro-innovations reflect the users' experience and represent new products made keeping the old elements that users know. The concept of "retro-innovation", when applied to rural areas and landscape planning, has the aim to strengthen the landscape cultural function. Agriculture modernization processes have reduced traditional agro-ecosystems ability to provide ecosystem services [10]. The need to increase land and labour productivity has determined a progressive simplification of the environmental and landscape structure which, in its turn, has brought about negative externalities such as erosion, groundwater pollution, decrease in resiliency, etc. Vice versa, each element of a traditional landscape used to provide several fundamental functions, i.e. ensuring an adequate agricultural production in good synergy and complementarity with the surrounding environment. In this paper we have interpreted the retro-innovation as the restoration of forms and elements of the traditional landscape that formerly played specific functions (e.g. trees used as living support for vines) and that currently are rediscovered, restored and recreated with the aim to meet new functions required by the community [11] [12].

First, the authors collected and analysed data on the structural characteristics of the landscape and its identity specific features. On the basis of the results of this phase, some project-design alternatives were identified with the aim to bring to the surface new landscape functions in line with new territorial needs. In this framework, a great importance was given to the need to guarantee that function carried out by local agricultural activities present an adequate level of diversification. The choice to use a retro-innovation approach, which was based on agriculture and landscape multifunctionality with a special focus on cultural landscapes, stemmed from the awareness that this model consents to reach a good balance of economic, social, environmental and cultural functions [13], leading to more sustainable and resilient systems. When consistent with the aims of the present study, the design project alternatives have included some of the strategic aims of the "*Piano di Indirizzo Territoriale - Piano Paesaggistico della Regione Toscana*" (PIT-PP), among which there are the following [14]:

- The representation and development of the richness of the landscape heritage and of its main features;
- An integrated and synergic analysis of landscape elements, i.e. its hydro-geomorphologic, natural, ecologic, environmental, rural and productive components;
- The promotion, through the redevelopment of territories, of the important role that landscape and environment play;
- The need to assert and guarantee that landscape is a common good and, consequently, to ensure its accessibility and availability for community use.

In summary, the project proposal aims to increase the awareness of two main aspects: a) the current threats to landscape values and b) the response policies to be implemented to prevent and counteract them.

## **2. The case-study area**

The case-study area, i.e. Padule di Bientina, is located in the lowland around Lucca (Tuscany) and it includes part of the former bed of the Bientina Lake and marshland. Bientina marshland has been designated as Site of Community Importance (SCI). It belongs to the Natura 2000 network of protected areas and it is a wetland area covered by the Ramsar Convention.

The part of the Padule di Bientina, which has been used as case-study area, is a lowland of about 235 ha located in the Capannori municipality. It borders on the archeologic and naturalistic area of the "Parco delle 100 Fattorie Romane" (Porcari municipality) to the East, on the "Canale Rogio" to the North and on the San Ginese hills and municipality roads to the West and South-West.

Main features of the case-study area are the presence of scarce built-up areas and of large agricultural areas. Agricultural areas are characterized by a prevalence of arable land and by fields with a small size. The case-study area underwent major land reclamation works and, consequently, it presents a dense drainage network. A small part of it is still characterised by humid depressions that are

considered as naturalistic oases with great value as regards their ecologic and testimonial value of the natural environment of lowlands [15].

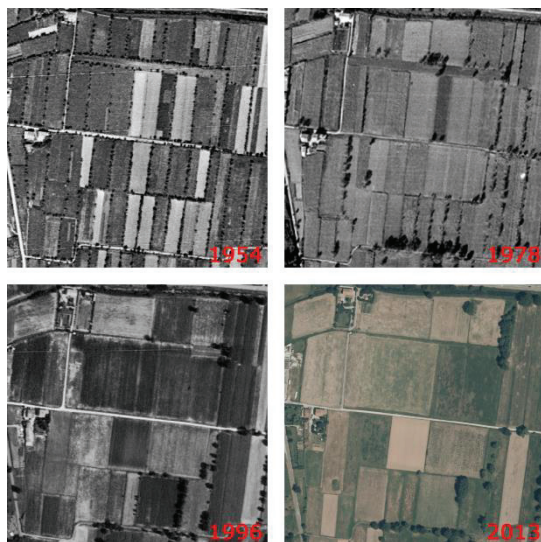
Tuscany Region PIT-PP classifies this area inside the morph typology of *arable land in reclaimed territories*, whose distinguishing features are the geometric form of fields, the regularity of the old division in sharecropping farmland, the presence of a complex and hierarchic system for the drainage and regulation of surface waters and the almost absolute predominance of arable crops [15].

The case-study area presents elements both of naturalistic and environmental and of historic-testimonial value, which derive from the partial preservation of traditional rural infrastructures and field organization that were typical of the rural landscape of Lucca.

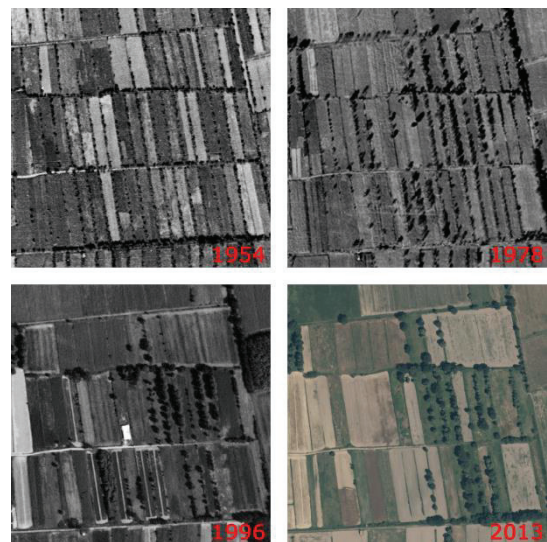
### 3. Territorial analysis

The territorial analysis has been carried out in a GIS environment; its main results are the cartographic and geo-referenced representation of the case-study area main features. The characteristics which have been considered are the following: landscape regulations and constraints; historic-architectural heritage; environmental assets, land use and land management systems, road systems and elements defining the agrarian structure. The analysis allowed us to highlight existing or potential points of strength and weakness.

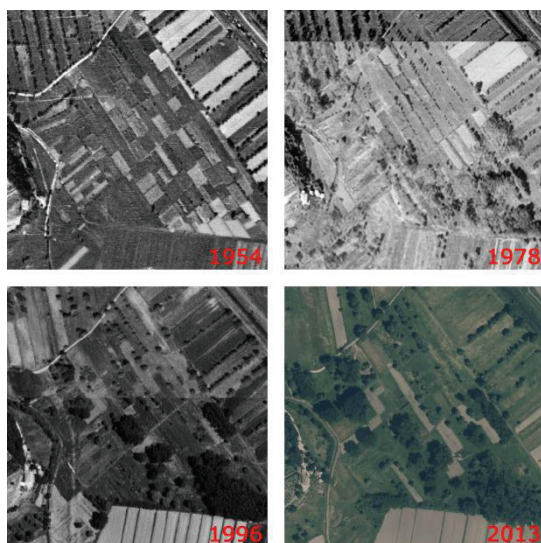
The case-study area is characterized by a prevalent agricultural land use, in particular irrigated and non-irrigated arable crops since the agricultural area accounts for 87% of the total surface. In the area, the cultivation of four varieties of the “bean of Lucchesia” by using organic traditional techniques is particularly important.



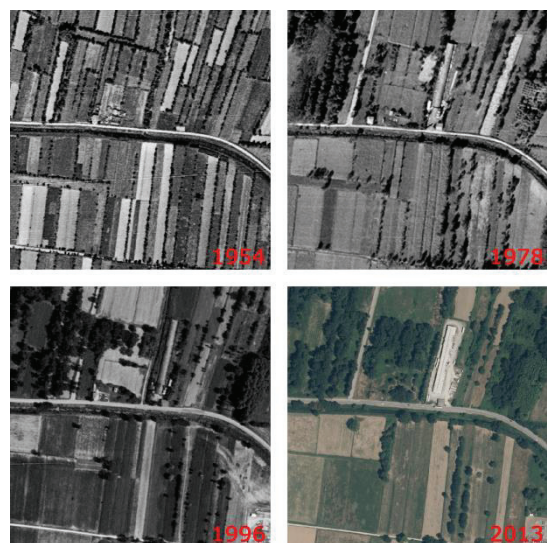
**Fig. 1.a:** Disappearance of mixed cropping and disappearance of “Piantata and Alberata” landscape.



**Fig. 1.b:** Landscape modification and progressive simplification of field organization.



**Fig. 1.c:** Farmland abandonment and re-colonization by trees and bushes



**Fig. 1.d:** modification of the river system and peri-fluvial areas.

The study in its early stages has focused on the diachronic analysis of landscape changes between 1954 and 2013 [16]. The comparison of orto-photo maps related to different times has allowed us to highlight the territorial evolution as regard the permanence of elements and the changes occurred. The main findings of this analysis were: a) the disappearance of mixed cropping (Fig. 1.a) and the simplification of field organization (Fig. 1.b); b) the modification and the progressive disappearance of “Piantata and Alberata” [17] landscapes (Fig. 1.a); c) the abandonment of farmland and its re-colonization by trees and bushes Fig. 1.c); and d) the modification of the river system and peri-fluvial areas (Fig. 1.d).

The orto-photo analysis highlighted the following main critical points: 1) the abandonment of agricultural land in specific areas, 2) the risk of water pollution, 3) the weakening and alteration of rural infrastructures and their organization, and 4) the fragmentation of the agrarian fabric.

The territorial analysis allowed us to identify four homogeneous sub-areas that constitute four landscapes units:

- Sub-area A, that is mainly suitable to production, due to the presence of farm enterprises characterised by a good structure which manage owned or rented land;
- Sub-area B, that is characterised by the presence of a fabric of small irregular farms. Its distinguishing elements are the density of the minor water drainage network and the presence to the South of a woodland. This latter was originated by farmland abandonment and subsequent re-colonization by trees;
- Sub-area C, whose organization in rectangular fields of about 95x48 m preserves the traditional field organization of the historic landscape of the Lucca area. It covers a surface of about 4,500 m<sup>2</sup> and presents a partial persistence of tree rows at the borders of fields (Piantata). These tree rows formerly had a productive function while currently they represent an important ecological infrastructure and have a testimonial value of the traditional landscape;
- Sub-area D, that is characterised by a high land fragmentation and by widespread phenomena of land abandonment and re-colonization by bushes and trees.

On the above four areas, a SWOT analysis has been performed with the aim to identify their specific suitability, potentialities of use and needs. The project proposal was based on the results of the SWOT analysis.



Fig. 2: Orto-photo maps of the case- study area at 2013

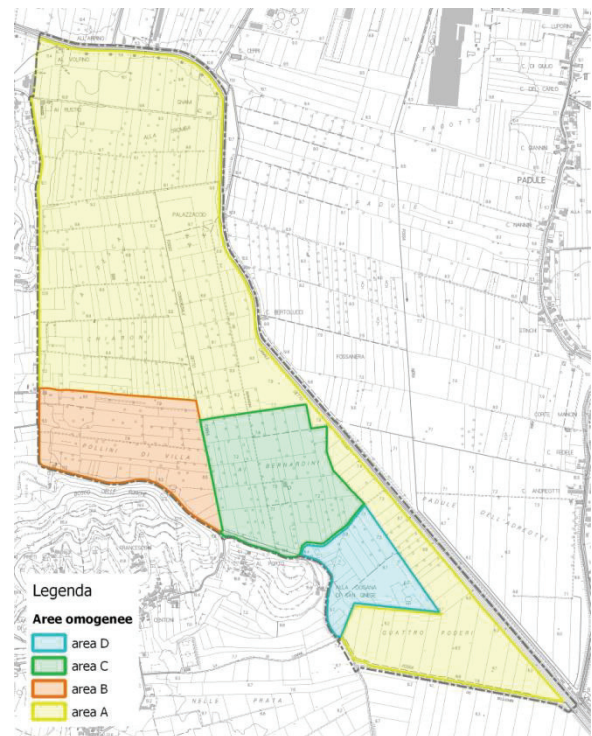


Fig. 3: Classification of the case-study area in homogeneous sub-areas

#### 4. The project proposal

In our proposed project, the retro-innovation has not been considered only as a landscape restructuring. Although the traces left by the time elapsed have deeply and negatively affected the structure of this rural territory, the choice of exactly restoring the old structure, as if it were a museum, has been considered as anachronistic and threatening the survival of landscape, since the relations between farmer activities and nature would have been totally broken. According to Magnaghi [18], over time



anthropic action produces neo-ecosystems on the land cover. They are characterized by a high degree of complexity and survive if practised by the culture and the rules generating them or by new cultures and other rules, provided they are cared for, preserved and encouraged to grow through continuous transformations [18]. The SWOT analysis has been carried out to guide choices, taking into account the status of the area and with the aim to propose a balanced mix of ecosystem functions. Our proposal consists of a landscape project, i.e. a masterplan for the reorganization of the rural territory, which is based on the results of the SWOT analysis. This masterplan aims at a requalification of the landscape through a set of interventions that aim to improve the landscape performances while not hindering agricultural activities. In the specific, interventions should allow farmers to carry out with ease the use of machinery, e.g. for ploughing etc., the maintenance of the hydraulic network also in presence of tree rows, the environmental functions and the use of the area by the local population and by tourists.

The project starts from the functions that were typical of the traditional landscape and propose their reinterpretation by a retro-innovative approach. The key concepts of this process were: 1) the natural, ecological and environmental functions, 2) the role of agriculture as productive activity, 3) the conservation of elements of the historic landscape, and 4) the beauty perception and fruition by residents and tourists.

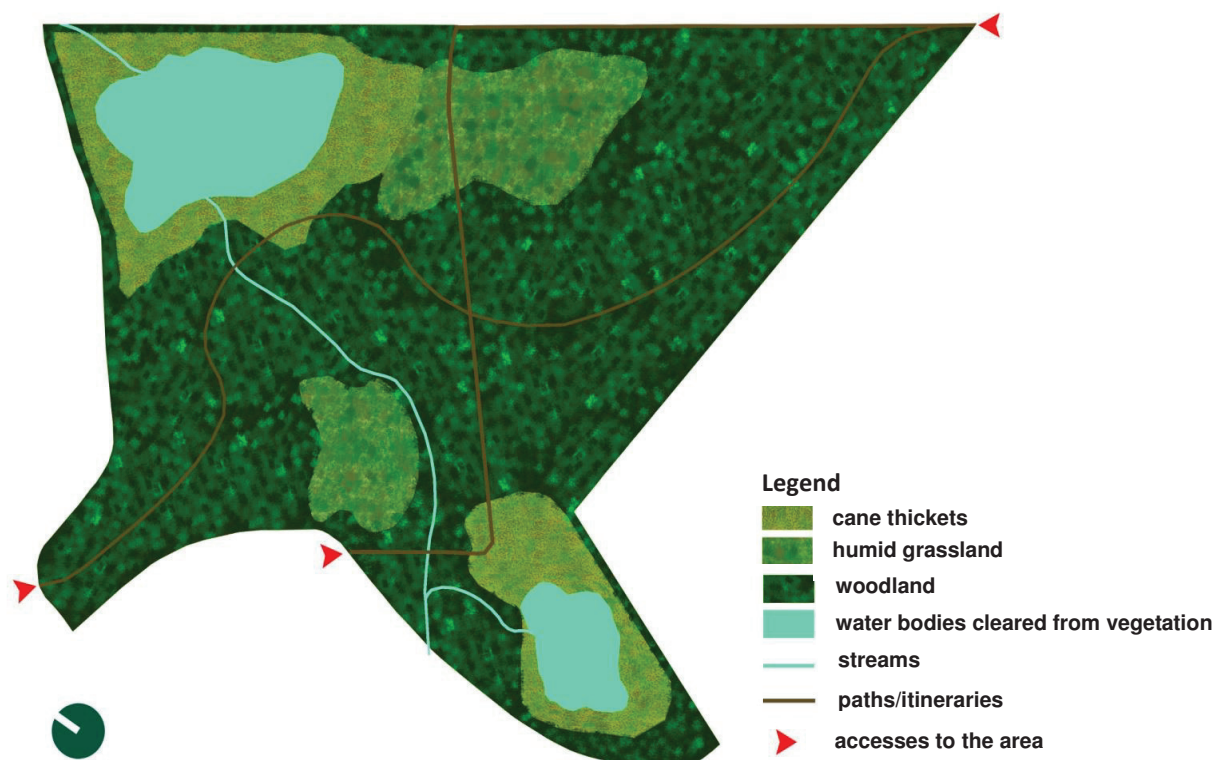
The interventions included in the project proposal were developed around three main functional systems [16] that have a common feature, i.e. ensuring an adequate level of effectiveness of agricultural processes.

#### 4.1 The water system

This functional system includes interventions that aim at the rearrangement of the drainage network, keeping into account from the one hand, system requirements and criticalities, and from the other hand, farmers' needs.

The project proposal includes the realization of a wetland area and the rearrangement of the agricultural hydraulic network, which implies the reorganization of fields in terms of their size and shape.

The wetland covers all the 13 hectares included into the sub-area D, i.e. the one with high fragmentation and the higher level of land abandonment. It includes a mosaic of areas with high ecological and natural importance.



**Fig. 4:** Humid area plan (sub-area D).

The project proposes to not counteract the water drainage deficiency caused by the increasing land abandonment of small plots, where it is not possible to mechanise most of the cultivation and harvesting operations. This with the aim to promote the territorial suitability to widespread re-naturalization, by the increase of woodland and riparian areas, i.e. elements of high environmental and ecological value.

At the same time, this area can meet a specific requirement expressed by the surrounding areas, i.e. can play the role of overflow basin for the nearby “Canale Rogio”, which represents the backbone of the territorial hydraulic system. Indeed, most of the local drainage network discharges water into Canale Rogio and, as a result, sometimes this area suffers for natural flooding.

Since the presence of an overflow basin is paramount for the hydraulic safety of the whole area, the project proposes to locate it in the area that is less suitable for agricultural uses, due to its characteristics of high fragmentation and widespread abandonment of agricultural land. The flooding area, according to the re-naturalization trends that are already in place, can be transformed in an area of ecological and environmental regeneration.

The wetland area will include:

- Marshlands including two water bodies of different size and connected by a small channel;
- Almost marshy areas surrounding the part of water bodies cleared from vegetation (“chiari”), with a vegetation of *Phragmites australis* and *Carex elata*;
- Almost marshy areas consisting of two humid grasslands with marsh vegetation, which are periodically flooded;
- Woodland that covers about 8.50 ha, i.e. the 66% of the wetland area total surface. The woodland should include the following species of trees and bushes typical of the area: *Quercus robur*, *Populus nigra*, *Alnus glutinosa*, *Rhamnus frangula*, *Salix Alba*, *Sambucus nigra*, *Cornus sanguinea*, *Crataegus monogyna*, *Prunus spinosa* and *Euonymus europaeus*.

Local population and tourist usability will be promoted by specific accesses to the wetland and by two naturalistic itineraries. The itineraries will allow visiting all the areas and include raised wooden walkways and bridges over streams, flooded areas, humid grassland and cane thickets.

The project, in the sub-areas other than area D, proposes to rearrange the agricultural and farm structure with the aim to maintain and improve the regularity of field organization through:

- The conservation and maintenance of the drainage system, where present, and of the road network both within and among farms;
- The development of new paths for accessing fields or the removal of furrows (the lowest works in the hierarchy of drainage systems) with the aim of maintaining the morphologic consistency with the general plan and the landscape context of the reclaimed lowland. The proposed reorganization of fields and plots, in some areas takes into account the need to simplify the spatial organization of fields while, in other areas, the excessive density of the drainage network.

The reorganization has as fixed points the roads that are necessary for accessing plots, the slope of fields from the middle to the border (0,2%), and, in most cases the already existing system of furrows and ditches. Main ditches should be 80-100 cm wide and 60-80 cm deep, while the following drainage works might be 60-80 cm wide and 40-60 cm deep.

In the sub-area A, where farm and territorial features are most favourable to the productive function, the project intensifies the simplification process through the creation of larger fields allowing for an adequate mechanisation of the cultivation.

In the sub-area B, which is characterized by small and irregular fields, the project aims to an extensive reorganization, able to make the characteristics of sub-area B similar to those of sub-area A.

In the sub-area C, the proposed spatial organization of fields and drainage system is very similar to the current one. The choice is motivated by the aim to recreate in this sub-area the typical characteristics of the traditional farm organization of Lucca area. Indeed, the traditional elements of this historic landscape are still partially existing and consequently the sub-area might play the role of a “landscape museum”.

In the sub-area D, the drainage system is scarce or either totally non-existent and, consequently, the project proposes this sub-area reconversion into a wetland, as above described.

#### **4.2 Ecological and environmental systems**

The interventions included in these systems aim to safeguard and strengthen the ecological network of the case-study area, which is a necessary requirement for the conservation of both the natural and environmental values and the historic-identity and aesthetic values of the landscape.

From an ecological point of view, the project aims to requalify the agricultural component by increasing the total permeability of the area and its ecological continuity. The project tries to reach this target through the reorganization of the area ecological infrastructure - which has also a testimonial value of the historic rural landscape - the maintenance of the connectivity through the requalification of the existing ecological corridors and the strengthening of areas with high natural value through the rehabilitation of woodlands.

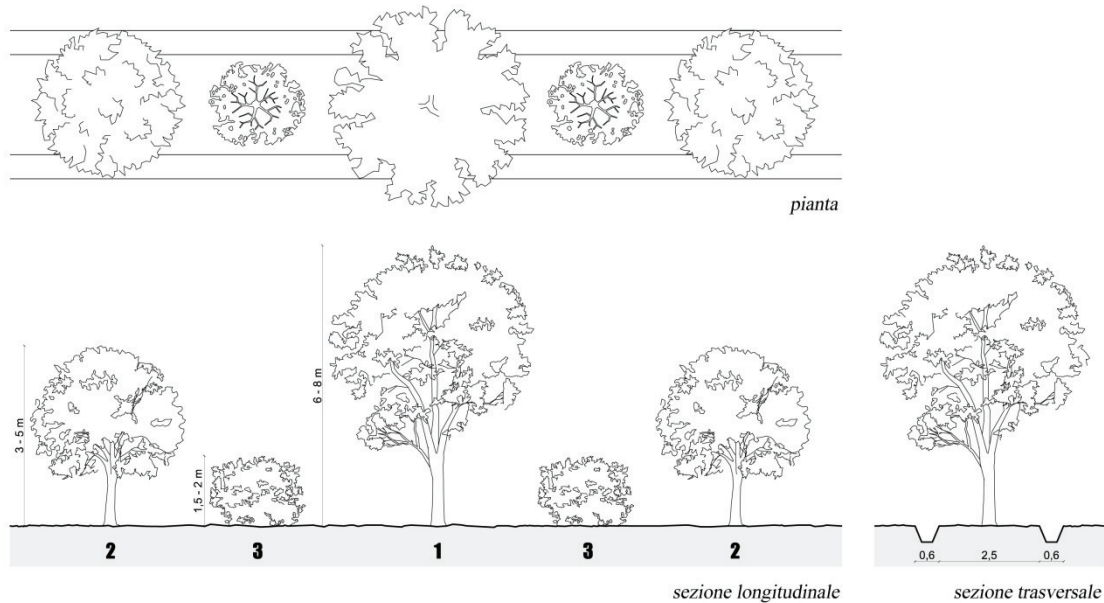
Two types of ecological infrastructures are considered in the project: a) single rows, usually related to multifunctional hedgerows (sub-area A) and, b) double rows of trees, in a modernized analogy to the historic landscape (sub-area C).

The first type is considered for the sub-area A, which is a large agricultural area and is characterised by a prevalence of the productive function. The retro-innovation consists in a modern re-interpretation of

the linear system of “piantata”, with the aim to maintain and promote biodiversity within this area where agricultural uses are prevalent. Piantata contributes to the ecological network by providing natural corridors with high ecosystem value. The infrastructure is organized according to the hedgerow model called “Frangola”, i.e. a multifunctional and multilayer single-row hedge where trees and bushes belonging to species typical of the area are intermixed. These rows significantly influence the landscape beauty and its perception while having other functions, such as: wind barriers, provision of flowers for honey production, provision of shelter for wild fauna and provision of a buffer zone reducing the distribution of herbicides and fertilizer, when organic farming is not adopted.

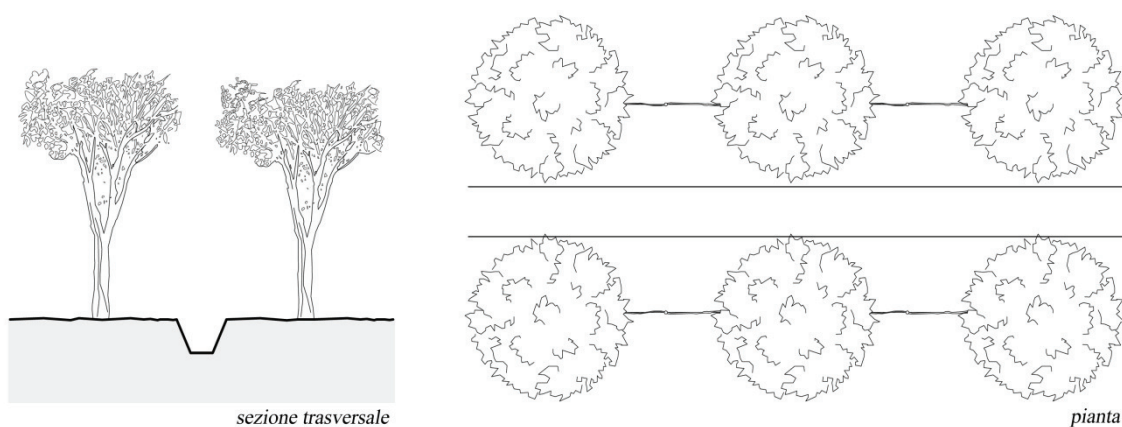
Trees and bushes are located within a strip of land 2.5 m wide, that has two ditches at its borders; this allows easily maintaining the drainage system and does not create problem for crop mechanisation.

The choice of species to be used for these hedgerows is based on ecological criteria; as a result, only well adapted to local pedo-climatic characteristics and native species should be used. Hedgerows are organized in three height levels: high plants (height: 6-8 m), secondary trees or high bushes (height: 3-5 m) and medium-small bushes (height: 1.5-2 m).



**Fig. 5:** Hedge "Frangola" type: model of a multifunctional hedge with single row and three levels in height. Legend: 1 High trees, 2 Secondary trees or high bushes 3. Medium-small bushes

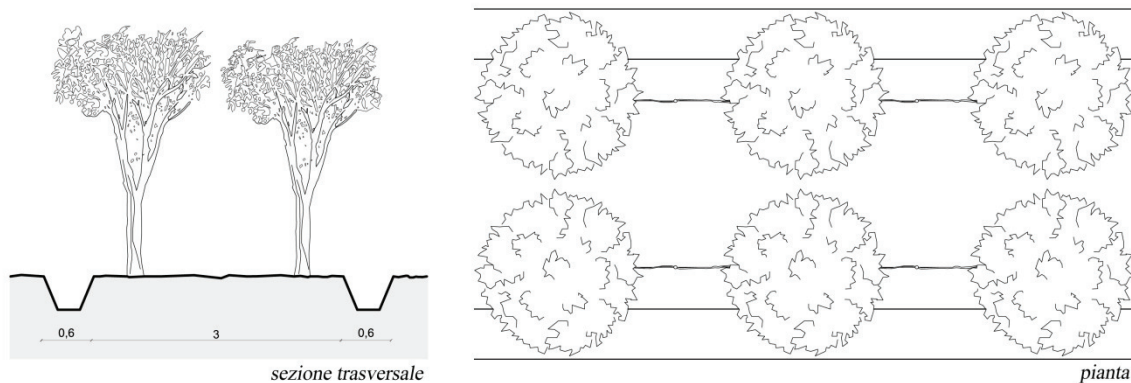
The second type aims to recover and reproduce inside the sub-area C the intercropping agricultural system typical of the “piantata” landscape, which was a characteristic of the area around Lucca. The reinterpretation takes into account the modern requirements in terms of easiness in maintaining and cleaning ditches and of use of modern machinery.



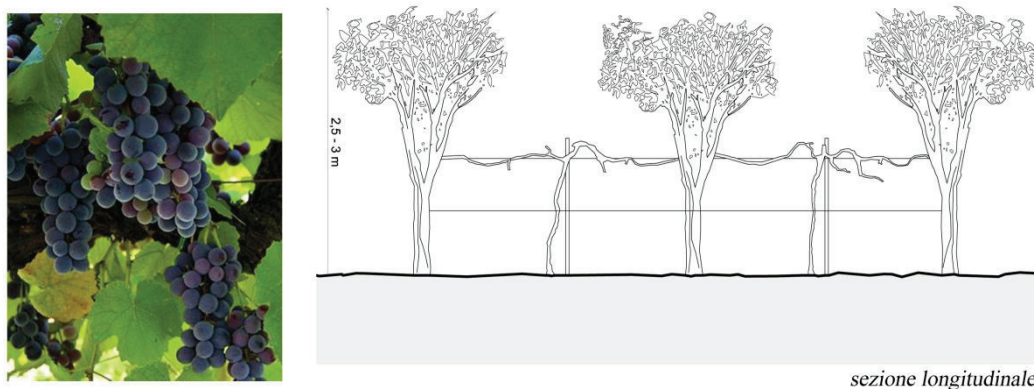
**Fig. 6:** Intercropping system of the historic Lucca landscape: double rows of vines using pollarded trees as a support. The ditch is located between the two rows of trees.

The idea is that to recreate in this part of the case-study area a kind of “landscape garden” where the natural and ecological components enrich the area from landscape, aesthetic, historic and cultural viewpoints. In this case, the retro-innovation consists in the replacement of a system with two rows of

trees and a ditch located in between with a double row system with two ditches in their sides. In this second case, it is possible to have an easy access to ditches for their cleaning and maintenance and to cut the grass between the two rows of trees without interfering with the cultivated land.



**Fig. 7:** Retro-innovation of the traditional historic landscape: double row of vines supported by pollarded trees on the central strip and side ditches.



**Fig. 8:** Vine plants associated with rows of pollarded trees, which have the function of a living support.

These rows are located on the long side of fields where pollarded trees are kept at a height of about 2.5-3 metres. The species to be used as pollarded trees are chosen according to the zone: to the West, *Populus nigra* is used, to the North-East *Morus alba* and to the South-East *Ulmus campestris*.

The retro-innovation consents to conserve the traditional appearance of the landscape while allowing for the adoption of modern techniques and machinery.

As regard the existing ecological corridors, the project aims to their rehabilitation by maintenance works and by the substitution of missing trees with *Populus nigra*, *Salix Alba* and *Sambucus nigra*, which are widespread in the area.

The project focuses on the three ecological corridors that go through the area and have the function of connecting the various landscape elements. At the same time, it aims to increase the area covered by woodland in order to strengthen the role played by areas with high natural value and preserve sites with high ecological value. This by favouring the ongoing re-naturalization processes while guiding them through new tree plantations in order to enlarge the existing tree belts, thus increasing their environmental quality.

Woodland rehabilitation and increase is especially promoted in the sub-area D (wetland), where also the woodland buffer belt to the South-West road has been redesigned, by requiring the plantation of local species such as *Acer campestre*, *Populus nigra* and *Alnus glutinosa* over a 6.80 ha area.

#### 4.3 Itinerary system

The project focused on the definition of an organic set of interventions aiming to improve the use of the area through slow mobility systems. This with the aim to create a synergy between the historic and archeologic heritage of the neighbouring areas and the high natural, environmental and landscape value of the case-study area.

The itinerary system includes walkways, bicycle paths and horse riding paths that cover all the case-study area and derives from the development and completion of existing paths, carried out respecting the local ecosystem. The itinerary system allows accessing and using the whole area and its specific

assets. It is connected with the itinerary system of the nearby archaeological area and with two bicycle paths.

In summary, the project identifies seven itineraries: two long paths developed to the longest side of the case-study area; three short transversal paths, while the last two itineraries cross the wetland. All these itineraries include only dirt roads.

## **5. Financial resource requirements and their potential sources**

There is a strong interest for the rehabilitation and enhancement of landscape; thus the Italian legislation includes mandatory instruments, such as Landscape Plans, aiming to ensure landscape quality maintenance and improvement. Nevertheless, there are scarce financial resources for promoting projects, which aim at the same goals on a voluntary basis. The only instruments that can be currently used for financing measures related to rural landscape are direct and indirect measures to this end, included in the Rural Development Programme (RDP) 2014-2020 [19]. Tuscany, for instance, in 2017 issued a specific tender financing interventions on rural landscape made by farmers. The tender relates to the development and implementation of Integrated Territorial Projects (ITPs), i.e. projects aiming to face specific environmental criticalities at territorial level, through the involvement both of public and private entities. ITPs gather financial resources from several RDP sub-measures. The tender had a good response in terms of number of projects answering it, but the scarcity of financial resources allowed the Tuscany Region to finance only few of them. Among the financed projects, there was none focusing on landscape.

A further instrument for developing project proposals on landscape is the LIFE Programme [20], used by EU to promote interventions in favour of environment and actions related to climate change. The new programme 2014-2020 gives financial resources to public administrations, SME and research institutes that want to implement projects relating environment and natural heritage conservation.

## **6. Conclusion**

Landscape is a common good and a testimonial of the rich heritage of a territory. For these reasons, landscape should be maintained and preserved for the following generations. As a common good, landscape reproduction requires not only protection, but also constant care and maintenance, but it represents an extraordinary added value in terms of distinctiveness and attractiveness of a territory.

Antrop [21] affirms that a landscape need to evolve in order to stay alive but its evolution must be coherent since it is the coherence among specific features and elements, which defines the identity of a landscape and, consequently, its chance of being acknowledged as a cultural landscape. Our project proposal, starting from the above aspects, proposes a retro-innovative approach for the rehabilitation and redevelopment of a rural area on a reclaimed territory, which is currently undergoing, from the one hand, increasing standardization phenomena and identity loss, and from the other hand, widespread abandonment processes.

The retro-innovation approach allowed us to reinterpret the typical functions of the local landscape with aim to promote a more balanced mix of productive, environmental and cultural functions.

The distinguishing elements of the case-study landscape, relating to the hydro-morphological, natural, environmental, ecological, rural, productive and touristic components have been considered through a synergic and integrated approach.

A critical point remains that of finding adequate financial resources for the implementation of similar approaches. It highlights a mismatch between goals set by legislative instruments and the resources allotted to attain them. This despite the results of many scientific researches that highlight the important role landscape and natural heritage can play as resources in the economic and social development of a territory.

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